

- Monitoring and supervision are regularly undertaken to review situation and provide technical assistance to affected States.

Effect of climate change on agriculture

T58. SHRI RAVI SHANKAR PRASAD:

SHRI RAM JETHMALANI:

Will the Minister of AGRICULTURE be pleased to state:

- (a) whether it is a fact that clear indications of change in climate are being noticed in the country and this has begun affecting the agriculture of the country adversely;
- (b) if so, the reaction of Government thereto;
- (c) whether Government have undertaken any study about the adverse effects on the agriculture due to climatic changes; and
- (d) if so, the details of the report in this regard?

THE MINISTRY OF AGRICULTURE (SHRI SHARAD PAWAR): (a) to (d) No clear-cut confirmed findings are available. However, intensity of the extreme events like drought, flood, heat waves, cold waves, cyclonic incidents etc. has increased. Preliminary studies taken up under the network programme on climate change sponsored by Indian council of Agricultural Research (ICAR) at CRIDA indicate that negative departure of annual rainfall (over the period of 1960-2004) has been noticed in some northern part of the country comprising parts of Western Uttar Pradesh, West Madhya Pradesh, Haryana, Uttarakhand, Himachal Pradesh and entire North Eastern States and in some part of the Southern Peninsula covering South Telangana, parts of Rayalaseema, Vidarbha and Tamil Nadu.

Further, the rainfall analysis carried out at 1140 stations located in the rainfed regions of the country has shown that 73 percent of the stations are subjected to short term fluctuations (less than 7 years) in annual rainfall. The increase in minimum temperature by 4 to 5 degree Celsius over its normal value coinciding with the reproductive stage of wheat corps during 2005-06 rabi season considerably affected the wheat production. As per information available with the India Meteorological Department (IMD), the surface air temperatures over the Indian subcontinent show a slight warming trend by about 0.4 Dgree Celsius during the past 100 years. This warming trend is however not uniform either in time or in space.

†Original notice of the question was received in Hindi.

Indian Council of Agricultural Research (ICAR) has initiated the Network Programme on Impact Adaptation and Vulnerability of Indian Agriculture to Climate Change during X plan period with outlay of Rs. 9.11 Crores. The research projects aim at to study the impact of climate change on agriculture systems including the livestock, fisheries horticulture and forestry at 16 locations spread across the country. At CRIDA, Hyderabad, the impact of elevated CO₂ on the growth rates of some dryland crops, viz. castor, groundnut and associated pests are being undertaken during the current plan period. The studies on castor crops indicated that the growth parameters have shown positive trend under elevated CO₂ levels at all its growth stages. However, the quantity and quality of oil contents was negatively affected.

Government of India is implementing various programmes namely, (i) National Watershed Development Project for Rained Areas (NWDPR), (ii) Soil Conservation for Enhancing Productivity of Degraded Lands in the Catchments of River Valley Project and Flood Prone River (RVP & FPR), (iii) Reclamation of Alkali Soil (RAS), (iv) Watershed Development Project in Shifting Cultivation Areas(WDPSCA), (v) Drought Prone Area Programme (DPAP), (vi) Desert Development Programme (DDP), (vii) Integrated Waste-land Development Programme (IWDP), (viii) National Afforestation & Eco-Development Project (NAEP), (ix) National Project on Development & Use of Bio-fertilizer (NPD&UB), (x) National Project on Organic Farming (NPOF) etc. for Resource Conservation and also to promote efficient utilization of soil, water, land, nutrients and pesticides etc. for sustainable agricultural development in the country.

Doubling of Ernakulam-Kayamkulam-Kottayam Rail Line

*59. SHRI K. CHANDRAN PILLAI: Will the Minister of RAILWAYS be pleased to state:

- (a) the details of the funds allocated to the rail line doubling work in the Ernakulam-Kayamkulam-Kottayam sector;
- (b) whether the work has commenced on this sector;
- (c) if so, the details of the work completed, so far;